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ABSTRACT

A study was conducted to assess the dimensions of a National Public Radio (NPR) audience's interests in programing, and how these interests define subaudience groups. Telephone surveys were conducted with 276 persons who were over 18 years of age and who usually listened to the local university operated NPR station at least one day per week. The results of a cluster analysis reflect the premise and programing strategy of NPR broadcasting: that NPR's mission is to serve a number of different minority tastes by offering block programing. For example, the subjects' local station plays blocks of classical music in the morning and early evening, bluegrass in the afternoon and jazz at night. Correspondingly, as the distinctive clusters suggest, an NPR audience is much more heterogeneous than that of a commercial outlet which continuously offers a specific format. The public radio schedule attracts an audience of subgroups whose allegiance to the station is partial, confined largely to interest in and support of a particular type of programing which is available only some of the time. In contrast to commercial radio listeners, NPR listeners' satisfaction with and loyalty to their stations are undercut, or at least discouraged, by the philosophy and tactics of public radio broadcasting. While this is no disparagement of NPR's unique alternative service, it is surely a factor in public radio's small audience shares and perennial difficulties in securing direct listener support. (HTH)

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PROGRAM INTERESTS OF NPR SUBAUDIENCES

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ABSTRACT

Listeners' responses to program items were factor analyzed to generate program interest dimensions. Means on these dimensions define clusters which represent subaudience groups. This approach to program evaluation and audience analysis seems practical and useful for both public and commercial broadcasters.

Traditionally, media audiences have been pictured as large and diverse. Such audiences are adequately described by the rating and share figures, and the age/sex breakdowns, of conventional quantitative research. But as new media outlets and competing program services have led to increasing "product differentiation (i.e., audience fragmentation),"[1] studies of audiences' subjective evaluations of programming have come to be of increasing value to both commercial and public broadcasters.

Commercial broadcasters can use evaluation data in program development to argue for promising shows beset with low ratings. For example, TvQ scores, a measure of audience satisfaction relative to audience size developed by Marketing Evaluations, Inc., have helped to save such shows as All in the Family and Hill Street Blues.[2] Similarly, findings on radio listeners' reactions to recording artists, music types and individual recordings are a basis for format design. Evaluation results can also support sales by demonstrating correlations between viewers' subjective reactions to programming and their receptivity to commercials appearing in the programming.[3]

Public broadcasters have their own interests in program evaluation. Some public media fare is designed to serve small subaudiences which are ignored by commercial sources of programming. Other general-audience

programs aim at some particular didactic or aesthetic effect.[4] To the extent that program evaluation research can "diagnostically pinpoint the sources of programming success and failure (in both viewer-defined and producer-defined terms),"[5] it can help to achieve such public media objectives. This study's approach to listeners' reactions to an NPR affiliate's programming contributes to a "program evaluation vocabulary, and a feedback channel"[6] for public media, and demonstrates a method of program evaluation and audience segmentation useful to commercial outlets as well.

Commercial television networks have evaluated programs through small-group techniques which range from collecting like-dislike responses from pilot screening audiences to measuring arousal during viewing with electrodes which record brain beta wave patterns.[7] In 1978, the Corporation for Public Broadcasting's Office of Communication Research began to study large-sample evaluation techniques for public television, but CPB's experimentation did not lead to a program of research.[8]

None of the few qualitative studies of radio audiences has explored specific program preferences, though some large radio groups ask telephone panelists for responses to 8-bar segments of songs. Dominick,

who found an inverse correlation between children's peer group membership and radio use, noted that only three studies of "social aspects of radio"[9] had appeared in the seven years prior to his 1974 report: Troldahl and Skolnik, using factor analysis, identified six dimensions of meaning of radio for adults.[10] Weintraub found that a verbal personality factor was most important in accounting for variance in teenagers' radio use,[11] and Ruffner used Q-sort methodology to find four types of female listeners to a progressive rock station.[12] More recently, Surlin found that highly-educated individuals who ranked low on a measure of fatalism are more likely to articulate community needs to radio stations.[13] Lull, Johnson and Sweeny compared listeners to various radio formats on several demographic and lifestyle indices (e.g., sex, age, marital status, geographic stability, dwelling type, newspaper subscription),[14] and Lull, Johnson and Edmond looked at radio listeners' use of other electronic media.[15]

In their study of a public radio audience, Williams and Krugman found that heavy listeners are older and less well-educated than are more casual listeners, and that listening could not be predicted by a measure of innovativeness based on diffusion of innovation research.[16] Subsequently, Williams found that a focus sample technique, in which respondents are

interviewed only if they meet *a priori* criteria (Williams' focus sample participants were randomly selected residents of the local market with listed telephone numbers who claimed to listen to one of two NPR stations at least once a week), is a valid and economical alternative to general population surveys for locating and measuring public radio audiences.[17]

Williams asked respondents about programming preferences, but the responses were so sparse that only findings on very broad program types--news, classical music, etc.--were supported. The present study's research questions are: (1) what are the dimensions (factors) of an NPR audience's interests in programming, and (2) how do these interests define subaudience groups?

Method

Respondents. Participants are 276 persons who met two eligibility requirements, that they be 18 or older and usually listen to the local NPR station at least one day per week, and completed a telephone interview. The station is operated by a university (10,000 undergraduates) in the county seat (pop. 25,500) of a largely rural mid-Atlantic region. Its 19,500 KW signal reaches about 300,000 persons, some or all of whom are also served by 6 commercial signals which are immediately local and 12 others from nearby towns. The commercial stations offer adult

contemporary, country, MOR, religious and rock formats. The NPR station plays classical, jazz and bluegrass music, along with informational, dramatic and variety programs. Arbitron gives the station a 3.5 rating (12+) in a market whose ratings range from 1.1 to 14.1, and a .8 share (12+; market range: .2-7.1).[18]

Respondents include 123 males (44.6 percent) and 153 females (55.4 percent) whose mean age is 38.2 years and who have resided in the station's service area for an average of 18.8 years. Most respondents (87.7 percent) are white. The family incomes before taxes of about a fifth of the subjects (21.4 percent) are $10,000-15,000, and about another fifth (22.1 percent) earn more than $30,000. Approximately 15.0 percent have incomes in each of the following brackets: $15,000-20,000, $20,000-25,000 and $25,000-30,000 (12.7 percent blank). A quarter of the participants (24.6 percent) had completed college, and about a fifth had either completed high school (22.1 percent) or had some college (22.1 percent). Somewhat fewer (14.4 percent) had not finished high school, and about as many (15.6 percent) held graduate degrees (1.1 percent blank).

Procedure. Respondents were contacted during July, 1984 in a telephone survey using random digit dialing techniques. Since more females than males tended to be available, in order to approximate the

station's roughly equal male-female audience mix, interviewers were instructed periodically to ask for male respondents but they were required to accept eligible females if males were not available.

Instrumentation. Participants evaluated 46 program elements suggested by the NPR station's managers with the instruction:

> We want to know how much you *like* to hear, or *would like* to hear, various kinds of programming on W____. I'll name a program or type of program, or a type of music, and you tell me how much you like it on a scale of one to nine. *One* means you do not like it at all. *Nine* means you like it a lot. *Five* means you don't really have an opinion either way.

Interviewers prompted responses to particular programs with a "tip sheet" (e.g., "Country Afternoon is a blend of contemporary and traditional folk, bluegrass and country music with live performances and interviews. It airs weekdays from 2 to 4:15 P.M.").

Reliability was assessed by retesting. Twenty-eight randomly-chosen respondents (10% of the sample) were called back one week after their original interviews and asked to rate again 25 randomly-selected program elements. The Pearson correlation coefficient for original and retest ratings is .87, significant beyond the .05 level.

Results

Factor Analysis. Factor analysis (principle factor solution, varimax rotation, pair-wise deletion) yielded a five-factor best-fit solution (Table 1). Items with loadings of at least .45 on one factor and less than .30 on

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TABLE 1 ABOUT HERE

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any other were accepted. Inspection of the scree plot suggested that the five-factor solution is reasonable. Although 11 factors with eigenvalues greater than 1.0, accounting for 65.1 percent of total variance, emerged, the factor structure defined by the first five remained quite stable. Subsequent factors added little useful information and were considered rather artifactual in that they probably reflect this NPR station's deliberate effort to serve a wide variety of minority tastes.

Cluster Analysis. Respondents were clustered (Ward's hierarchical cluster analysis, list-wise deletion) into subaudiences on the program interest factors of Table 1. R-squared values indicated that the greatest separation of clusters occurred in five-ten cluster solutions. The six-cluster solution was chosen because it provides a stable, meaningful cluster structure to which further clustering added little useful information. The clusters, in order of the size of their memberships, are:

1, general music listeners (n=69; factor means, I-V: .41, .26, .64, .48, -.01); 2, bluegrass/folk-local interests listeners (n=38; factor means, I-V: -.71, -,77, .03, .63, .51); 3, news and information-local interests listeners (n=32; factor means, I-V: -.42, .90, -1.14, .29, .73); 4, casual listeners (n=29; factor means, I-V: .07, .28, .41, -.10, -1.48); 5, classical music listeners (n=28; factor means, I-V: 1.09, -.56, .01, -.76, .42); 6, jazz music listeners (n=23; factor means, I-V: -1.30, .17, .66, -1.36, -.34). Total membership of the six clusters is 219.

The subaudience clusters' factor means suggest how the clusters embody the program interests of Table 1's factors. A degree-of-interest scale, constructed to reflect a roughly normal distribution of the factor means as calculated from the data, indicates that means ranging between .0 and .3/-.3 represent slight like/dislike, means between .3/-.3 and .9/-.9 represent moderate like/dislike and means between .9/-.9 and 1 5/-1.5 represent strong like/dislike.

Discussion

Table 1's factors represent the alternative, minority-taste program interests which this public radio station serves. None of the interests suggested by the factors' names are satisfied by the station's commercial competitors. The appearance of All Things Considered, NPR's

much-acclaimed evening news magazine, on the classical music factor, and the failure of Morning Edition, its morning counterpart, to qualify for the news and information factor are curious. It is possible that members of the university community, rather than the station's general audience, form a subaudience which is especially interested in both classical music and in these two major NPR news offerings. (Morning Edition loads on the Classical Music factor at .34.) The station makes considerable efforts to provide locally-oriented programming (factor V), featuring interview series with various university faculty and, especially, Valley Things Considered, a locally-focused news magazine which precedes NPR's All Things Considered at 4:30 P.M. weekdays. Hosts for music and interview programs are often student interns.

The first, largest cluster seems to represent a subaudience with occasional, mild interest in listening to the station's various alternative music offerings. The fourth cluster's means suggest a subgroup of relatively infrequent listeners who are not committed fans of public radio. The other four clusters represent subaudience groups with distinctive affinities for various types of programming. In addition, bluegrass/folk music, classical music and news and information listeners all have some degree of interest in locally-focused programs. Cluster 5, the classical

music audience, might be expected, on demographic grounds, to have a considerable appetite for news. While, as Table 1 shows, this group pays some attention to All Things Considered, the means for clusters 3 and 5 suggest the speculation that classical music listeners may tend to use a range of other media channels (perhaps, especially, print sources), as well as public radio, for news.

The results of the cluster analysis reflect the premise and programming strategy of NPR broadcasting: that NPR's mission is to serve a number of different minority tastes by offering block programming.[19] For example, this station plays blocks of classical music in the morning and early evening, bluegrass in the afternoon and jazz at night. Correspondingly, as the distinctive clusters suggest, an NPR audience is much more heterogeneous than that of a commercial outlet which continuously offers a specific format. The public radio schedule attracts an audience of subgroups whose allegiance to the station is partial, confined largely to interest in and support of a particular type of programming which is available only some of the time.

Commercial radio listeners seem to have almost personal relationships and strong allegiance to the stations which dependably supply them with the narrow format programming they seek. By contrast, NPR listeners'

satisfaction with and loyalty to their stations are undercut, or at least discouraged, by the philosophy and tactics of public radio broadcasting. While this is no disparagement of NPR's unique alternative service, it surely is a factor in public radio's small audience shares and perennial difficulties in securing direct listener support.

This study's factor and cluster analyses of program interests and subaudiences demonstrate an approach to program evaluation and design. For example, a factor structure of recording artists could be a basis for playlists. Further analysis linking cluster demographics to program tastes would be of interest to public stations and could support sales efforts at commercial outlets.[20] Such program evaluation/audience analysis would seem to be a feasible, useful project for both public and commercial broadcasters.

Footnotes

1 Richard V. Ducey, "Qualitative Audience Research: A New Tool for Marketing Your Station." Unpublished report prepared for National Association of Broadcasters, December 1983, p. 3.

2 *Ibid.*, p. 6.

3 "A survey conducted by Television Audience Assessment (TAA) and Clancy, Shulman and Associates found a 'decisive correlation' between a program's overall subjective evaluation and the receptivity of viewers to commercials appearing appearing during that programming." *Ibid.*

4 Carol A. V. Keegan, "Qualitative Audience Research in Public Television," *Journal of Communication*, 30:154 (Summer 1980).

5 *Ibid.*, p. 165.

6 *Ibid.*

7 Harry F. Waters with Trey Ellis, "How Research Tyrannizes TV," *Newsweek*, August 29, 1983, pp. 47;49.

8 Keegan, *op. cit.*

9 Joseph R. Dominick, "The Portable Friend: Peer Group Membership and Radio Usage," *Journal of Broadcasting*, 18:161 (Spring 1974).

10 Verling Troldahl and Roger Skolnik, "The Meanings people Have for Radio Today," *Journal of Broadcasting*, 12:57-67 (Winter 1967-68).

11 Neil Weintraub, "Some Meanings Radio Has for Teenagers," *Journal of Broadcasting*, 15:147-152 (Spring 1971).

12 Marguerite Ruffner, "Women's Attitudes toward Progressive Rock Radio," *Journal of Broadcasting*, 17:85-94 (Winter 1972-73).

13 Stuart H. Surlin, "Race, Education and Fatalism: Predictors of

Involvement in Radio Programming," *Journal of Broadcasting*, 21:413-426 (Fall 1977).

14 James T. Lull, Lawrence M. Johnson and Carol E. Sweeny, "Audiences for Contemporary Radio Formats," *Journal of Broadcasting*, 22:439-453 (Fall 1978).

15 James T. Lull, Lawrence M. Johnson and Donald Edmond, "Radio Listeners' Electronic Media Habits," *Journal of Broadcasting*, 25:25-36 (Winter 1981).

16 Wenmouth Williams Jr. and Dean M. Krugman, "Innovativeness and the Public Radio Audience," *Journal of Broadscasting*, 25:61-69 (Winter 1981).

17 Wenmouth Williams Jr., "Two Approaches to the Identification and Measurement of Public Radio Audiences: Locating Unique Subgroups," *Journal of Broadcasting*, 21:401-412 (Fall 1977).

18 *Arbitron Ratings Special Report Prepared for Public Broadcasting, Spring 1983*(Washington, D.C.: Arbitron Co., 1983).

19 Donald P. Mullally, "Radio: the Other Public Medium," *Journal of Communication*, 30:192 (summer 1980).

20 Sheree S. Goldflies, "How an In-House Researcher Can Increase Your Bottom Line." Unpublished report prepared for National Association of Broadcasters, October 1984.

TABLE 1

Factor Analysis of Program Items

	I	II	III	IV	V
	Classical Music	News and Information	Jazz Music	Bluegrass/Folk Interests	Local Interests
Classical music	.85	.09	.09	-.11	-.04
Classical music composed after 1850	.85	.04	.04	-.14	-.02
Classical music composed before 1850	.82	.05	.01	-.11	-.11
Chamber music	.79	.14	-.10	-.01	-.02
Adventures in Good Music	.74	.13	.07	.10	.10
Metropolitan Opera broadcasts	.73	.21	.00	.03	-.08
Music in Context	.71	.11	.06	.09	.01
Boston Pops concerts	.71	.00	.03	-.15	.09
Ethnic folk music from other countries	.61	.21	.10	.29	.03
All Things Considered	.47	.26	.04	.06	.12
Extended, in-depth news programs	.27	.73	-.10	.02	-.06
Radio commentaries on general issues	.17	.73	.12	.16	-.09
Radio commentaries on local issues	.14	.72	.16	.20	-.02
Business news	.06	.64	.06	-.04	.16
National Press Club	.29	.57	.19	-.01	-.06

TABLE 1 - Continued

	I Classical Music	II News and Information	III Jazz Music	IV Bluegrass/Folk Interests	V Local Interests
Nationally-syndicated news programs (e.g. Monitoradio)	.27	.48	.06	.08	.14
Sports commentaries and interviews	-.15	.47	.23	-.06	.27
Noontime news and public affairs programs	.17	.46	-.07	-.06	.26
Hourly newscasts	.14	.45	-.07	-.14	.25
Modern or fusion jazz	.02	.04	.86	.03	-.02
Saturday Morning Jazz	.21	.06	.82	.02	.04
Jazz Revisited	.14	.08	.79	.01	.03
Rhythm-&-blues or soul music	-.16	-.07	.77	.02	.10
Ebony in Perspective	-.05	.20	.77	.03	-.09
Crossover country/ bluegrass music	-.13	-.02	.02	.88	.07
Country Afternoon	-.09	.01	-.07	.85	.16
Afternoon bluegrass music	-.17	.01	.04	.84	.04
A Prairie Home Companion	.20	.11	.21	.60	.06
Traditional American folk music	.28	.15	-.02	.56	.16
Local news reports in All Things Considered	.05	-.04	-.01	.11	.76

TABLE 1 - Continued

	I Classical Music	II News and Information	III Jazz Music	IV Bluegrass/Folk Interests	V Local Interests
Local news report in <u>This Morning</u>	-.06	.09	-.05	.20	.75
<u>Valley Things Considered</u>	.25	.24	-.07	.17	.58
<u>W... Morning Report</u>	-.05	.29	.12	.00	.51
Students as announcers	-.03	.02	.37	.01	.51
Percent of total variance accounted for	20%	11	8	6	4
Total variance accounted for					49%

Note: N = 276. Program titles are underlined.